MDOT
Michigan Department of Transportation

OFFICE MEMORANDUM

DATE: June 9, 2008

TO: Region Engineers
Region Delivery Engineers
TSC Managers
Resident/Project Engineers
Region Construction Engineers

FROM: Larry E. Tibbits
Chief Operations Officer

John C. Friend
Engineer of Delivery

SUBJECT: Bureau of Highway Instructional Memorandum 2008-10
Authorization to Change Asphalt Cement (AC) Binder Content Calculation Method for Hot Mix Asphalt (HMA) Placed and Accepted under Frequently Used Special Provisions (FUSPs)

The department will allow the back-calculated method for determining AC binder content to maintain consistency in HMA Quality Assurance (QA) testing between Superpave and Marshall mixtures. This is effective immediately for mixture acceptance under FUSP 03SP504(B), *Furnishing and Placing Marshall HMA Mixture (with Sampling Behind the Paver)* (FHWA approval date August 31, 2006) and FUSP 03SP504(C), *Superpave Hot Mix Asphalt Percent Within Limits (PWL)* (FHWA approval date September 19, 2006).

- FUSP 03SP504(B) – the following language changes shall now apply:

c. Quality Control –

The Engineer will not sample . . . A discussion of the elected binder content procedure will occur at the pre-production meeting. The Contractor will notify the Engineer in writing at the pre-production meeting which method, binder content back calculated or vacuum extraction, they elect to use for Binder Content acceptance per mix design. For each mix, the method chosen will be used exclusively throughout the project for QA acceptance, including Dispute Resolution.

d.2.E. Composition of the Mixture –

Method 1 – Asphalt binder content based on calculated value using sublot maximum specific gravity (Gmm) and current JMF effective specific gravity

(Gse); gradation (ASTM C 136, C117) and crushed particle content (MTM 117) from extracted (AASHTO T 164) or incinerated (MTM 319) aggregate.

Method 2 – Asphalt binder content based on vacuum extraction by MTM 325 and the "Checklist for HMA Mixture Analysis Vacuum Extraction," of the *HMA Production Manual*. Gradation (ASTM C136, C 117) and crushed particle content (MTM 117) based on extracted (AASHTO T 164) aggregate.

Method 1 or 2 will be selected by the contractor for each mix at the pre-production meeting. The method selected cannot be changed during mix production without submitting a new mix design to the MDOT C&T central laboratory for approval.

- FUSP 03SP504(C) – the following language changes shall now apply:

a.2. Partnering Sessions –

At the pre-production meeting . . . A discussion of the elected binder content procedure will occur at the pre-production meeting. The Contractor will notify the Engineer in writing at the pre-production meeting which method, binder content back calculated or vacuum extraction, they elect to use for Binder Content acceptance per mix design. For each mix, the method chosen will be used exclusively throughout the project for QA acceptance, including Dispute Resolution..

f.4.G. Composition of the Mixture –

Method 1 – Asphalt binder content based on calculated value using sublot maximum specific gravity (Gmm) and current JMF effective specific gravity (Gse); gradation (ASTM C 136, C117) and crushed particle content (MTM 117) from extracted (AASHTO T 164) or incinerated (MTM 319) aggregate.

Method 2 – Asphalt binder content based on vacuum extraction by MTM 325 and the "Checklist for HMA Mixture Analysis Vacuum Extraction," of the *HMA Production Manual*. Gradation (ASTM C136, C 117) and crushed particle content (MTM 117) based on extracted (AASHTO T 164) aggregate.

Method 1 or 2 will be selected by the contractor for each mix at the pre-production meeting. The method selected cannot be changed during mix production without submitting a new mix design to the MDOT C&T central laboratory for approval.

A copy of this instructional memorandum, accompanied by an executed no-cost, no-credit, no-extension-of-time work order, shall be placed in the project files documenting the contractual change and fulfillment of audit requirements.

The Federal Highway Administration concurs with this authorization.

Please contact Curtis Bleech, Construction and Technology Division, at 517-322-1237 if you have any questions.

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Chief Operations Officer Engineer of Delivery

BOHD:C/T:SJP:kab

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